Walking the Walk: Does Perceptual Congruence between Managers and Employees Promote Employee Job Satisfaction?

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Abstract

Public managers and employees should be on the same page for successful performance. Managers' self-evaluations of their own management, however, often do not match employees' evaluations. Despite the consistent findings of a discrepancy between managers' and employees' perceptions of management, little research has examined how this perceptual incongruence affects employee job satisfaction. The present study addresses this question using parallel surveys from both managers and employees in the context of public education. The findings suggest managers overestimate their management effectiveness in general. As the perceptual gap between managers and employees increases, employees are less likely to be satisfied with their organization and their profession. We also find that this relationship is nonlinear, and the negative effects of incongruence could be accelerated when employees have considerable consensus about management. This study highlights the role of perceptual congruence in creating a better work environment and promoting job satisfaction for public employees.

Keywords: Perceptual Congruence; Management Effectiveness; Job Satisfaction; Employee Well-being; Public Management

Introduction

Public managers and frontline employees approach their jobs from different perspectives (Lipsky 1980). How managers think they act may differ from how employees perceive those actions. A perceptual discrepancy between managers and employees can create problems for communication and coordination, negatively affect management decisions, and ultimately lower organizational performance. Reducing the perceptual gap is therefore critical for the success of public programs. While understanding the perceptual discrepancy is the first step towards reducing its negative impact, this issue has, until recently, gone unexplored in the public sector. Some recent literature has begun to address this shortcoming by comparing managers' and employees' perceptions regarding the same managerial practices. In spite of the growing literature asserting that managers' self-assessments often diverge from employees' assessments (e.g., Favero et al. 2018; Jacobsen & Andersen 2015), little is known about how this discrepancy affects employees' job satisfaction in the public sector.

Research on management in the private sector often suggests that congruence between managers and employees produces positive outcomes, including increased employee job satisfaction (e.g., Yammarino & Atwater 1993, 1997; Wexley et al., 1980). Whether this relationship applies in the public sector, however, is still unknown. Public managers, compared with their private counterparts, tend to have more limited authority and less flexibility. Furthermore, they deal with conflicting values and goals more often than private sector managers (Chun & Rainey 2005; Rainey 2009). In particular, ambiguous and conflicting goals may create greater discrepancies between managers and employees because the two groups may prioritize different goals and value different management actions to achieve those goals. Meanwhile, their more limited authority and less flexibility permit public managers to use fewer management tools to improve employee job satisfaction. Under these circumstances, achieving perceptual congruence through effective communication and

feedback between managers and employees becomes increasingly important, but increasingly difficult in the public sector compared with the private sector (Favero, Meier, & O'Toole 2016).

Not only is consensus important for managers and employees, but consistency in perceptions among employees can also play a significant role in shaping individual and organizational outcomes. Because public sector employees are more likely to work in teams than private sector employees (Chen & Rainey 2014), understanding the effect of shared perceptions among employees can help improve their teamwork abilities and ultimately contribute to organizational performance. The questions of how perceptual congruence among employees influences their job satisfaction or how it shapes the effect of manager-employee disagreement are largely unexplored.

This article investigates how a perceptual discrepancy between managers and employees in their ratings of the managers' management influence a vital employee affective outcome—job satisfaction. Conceptual incongruence deserves more attention in the job satisfaction research because it is one factor that public managers can influence; how they present their leadership is their choice, as opposed to many other things that affect employee job satisfaction that they cannot control. Increased job satisfaction is likely to contribute to positive outcomes, such as greater organizational commitment (Chordiya, Sabharwal, & Goodman 2017), intention to stay in the organization (e.g., Lee & Whitford 2007), and higher performance. In particular, this study challenges the existing private sector literature that often assumes a positive linear relationship between the manager-employee discrepancy and employee job satisfaction by exploring the possible nonlinear effects of the perceptual discrepancy. Next, this research examines the role of perceptual congruence among employees, that is, how shared perceptions among employees affects their job satisfaction.

Lastly, we explore whether the perceptual discrepancy between managers and employees has more or less influence when employee perceptions are more uniform.

The present research uses education data, including parallel surveys from over 600 principals and 5,000 teachers in South Korea. We examine both linear and nonlinear relationships between the perceptual discrepancy of the two groups and teachers' job satisfaction and how shared perceptions among teachers affect this relationship. Our findings contribute to public management and human resources' management literature by providing insight into the nature of the relationship between perceptual discrepancies regarding management and employee job satisfaction. Furthermore, this study adds to the job design literature by highlighting the need to create clear roles and expectations for both managers and employees and effectively communicate the same.

The Discrepancy between Managers' and Employees' Perceptions of Management

Understanding perceptual discrepancy between managers and employees is essential because this discrepancy could bring undesirable outcomes, such as miscommunication, coordination problems, lack of clear guidelines for employees, and a disconnect between managers and employees (Atwater & Yammarino 1997). Such discrepancies may also negatively affect employees' occupational well-being and organizational performance (Marvel 2017). Reducing the perceptual gap through effective communication is therefore a key to successful programs. In a practical sense, such efforts provide the basis for feedback to managers on how to improve their performance as leaders. In particular, many managers overestimate their competence and fail to recognize their weaknesses (Light 2010; Meier & O'Toole 2013a).

Efforts to reduce the perceptual gap through open discussions with employees may enable managers to make more accurate self-assessments, better handle criticism, and adopt

more effective managerial strategies. Such efforts can also help employees better understand the managers' perspective, including their responsibilities and how their jobs are done. Employees who are aware of how managers spend time and use resources to achieve organizational goals are more likely to support the managerial decisions and commit to those organizational goals (Favero, Meier, & O'Toole 2016). It is thus in the interest of all parties—the managers, the employees, and the organization—to create a common understanding between the two groups.

The existing literature suggests perceptual discrepancies can exist when different actors hold different perspectives on management or when one perceptual judgment provides more accurate information regarding management than the other.[1] These discrepancies can arise because managers and employees see different portions of the organization's management practices, or they value different management actions. The former is plausible because frontline employees seldom directly observe the managerial behaviors of top managers and tend to have relatively less knowledge about certain aspects of management, such as external networking. This may result in a divergence of their judgments of management from managers' self-evaluations (Favero et al. 2018).

The latter form of perceptual discrepancies could occur because managers and employees work in different positions with different responsibilities. Public managers tend to be more concerned with the organization's aggregate performance while frontline employees are more concerned about daily operations and tasks (Lipsky 1980). These differences could affect the way they evaluate management effectiveness. An executive manager, for example, may invest significant time and resources in developing alignment with political stakeholders, thinking such efforts are critical for acquiring external resources. In contrast, frontline

[1] There are, of course, many other contextual factors that affect perceptual discrepancies (see Fleenor et al. 2010; Lee & Carpenter 2018).

employees may consider efficient internal operations through effective human and financial management as more critical and thereby value managers' external networking efforts less. Having different priorities and values could bring about an underlying tension between managers as well as further widen the perceptual gap between the groups (Marvel 2017). This issue may be more serious in the public sector, where organizations pursue numerous conflicting goals under a strict hierarchical structure (Chun & Rainey 2005; Rainey 2009).

Perceptual discrepancies may also occur when one or both measures used to evaluate management suffer from measurement error. Management and managerial actions are typically measured through managers' self-assessment ratings of their own management and their subordinates' ratings of their management (e.g., Amirkhanyan et al. 2018; Favero et al. 2016).[2] Measurements based on managers' self-reports should have face validity because managers know what they do to manage their organizations. Such measures are especially revealing for managerial activities not directly observed by employees. Managers' responses, however, may be subject to a social desirability bias, when managers respond with what is considered good management rather than providing accurate depictions of their actual practices (Favero et al. 2018). Even if managers honestly respond, their judgments may differ from their actual management because their perceptions may reflect what they intend to do rather than what they actually do.

Collecting evaluations from employees is one way to combat the measurement error in managers' responses. Because employees are not reporting about their own work, their responses are less likely to suffer from social desirability bias (Favero et al. 2018). Using multiple employees' evaluations of management can also help to reduce measurement error

[2] A notable exception is Meier and O'Toole (2002), who develop a managerial quality measure based on top-managers' salary instead of using perceptual measurement. Similarly, Chun and Song (2017) measure managerial quality using managers' promotions rather than perceptual judgements.

because aggregating multiple responses is likely to cancel out random perceptual errors (Conway & Huffcutt 1997). Employees are more likely to make valid judgments about the effectiveness of management because they observe actual managerial practices independent of the managers' intentions or plans. Employees' opinions, however, are not without their limitations. Employee responses are also prone to bias such as halo effects in which their assessments of management might be influenced by their overall perceptions of the organization and its performance (Cooper 1981; Favero et al. 2016; Thorndike 1920). In this case, employees' assessments may not be a reliable indicator of management effectiveness.

Recent public management research has examined how these two types of management measures are related and how each predicts organizational performance. Using parallel surveys of Danish school principals and teachers, Favero et al. (2018) find a low correlation between the two perceptual judgments of management. They also find teachers' responses better predict performance for management aspects that are more visible, whereas managers' responses better predict performance for management that is less visible. These findings suggest that the principals' and teachers' responses may have been capturing different aspects of management. Similarly, Jacobsen and Andersen (2015) highlight the lack of common variation between school leaders and teachers in assessing leaders' practices. They find school leaders' perceptions and teachers' perceptions of leadership are weakly correlated, and only employee-perceived leadership is significantly related to organizational performance; manager-perceived leadership is not related to performance.

The literature on the self–other agreement (SOA) has also highlighted the differences between managers' self-ratings and other ratings by subordinates, peers, or supervisors (Fleenor et al. 2010; Yammarino & Atwater 1997, 1993). Researchers argue that managers generally overrate their management or leadership practices relative to employees due to the social desirability bias (Podsakoff & Organ 1986) or leniency bias (Fox & Dinur 1988;

Yammarino & Atwater 1993). Evidence of perceptual congruence between managers and employees, however, has also been found. Using a meta-analysis, Lee and Carpenter (2018) show that the leader–observer rating of leadership is positively and moderately correlated (ρ varies from.14 to .56). They find leaders provide similar mean ratings to the others regarding task-oriented leadership behavior, although leaders generally overestimate their relational-oriented behavior.

The SOA literature has also investigated how self–other agreement or disagreement affect organizational or individual outcomes (for a review, see Fleenor et al. 2010). The majority of the prior research, however, has focused on outcomes that are predominantly related to the manager (e.g., manager performance, manager attitudes) rather than the employees (Erben, Schneider, & Maier 2019). Additionally, many studies presume a linear relationship between perceptual discrepancies and outcomes, ignoring the possibility of a nonlinear relationship. A few exceptions to this include Ostroff et al. (2004) who employ a polynomial regression and explore the nonlinear relationships between SOA and various outcome variables (see Atwater et al. 1998; Johnson & Ferstl 1999).[3] There is therefore a need for more in-depth research on the relationship between the manager-employee discrepancy, how this relationship works (i.e. linear or nonlinear), and how it relates to employee outcomes (employee job satisfaction in the case of this study).

The Perceptual Discrepancy of Management and Employees' Job Satisfaction

While the perceptual discrepancy between managers and employees could have various consequences at both individual and organizational levels, this study focuses on how

[3] Ostroff et al. (2004), for example, consider managers' self-ratings of their leadership, others' ratings, the square of the self-ratings, the square of the other-ratings, and the interaction between self-rating and other-rating in their regression models. They find manager–subordinate agreement has a linear relationship in perceived performance, but a nonlinear relationship for compensation.

the discrepancy affects employees' occupational well-being, specifically job satisfaction. Job satisfaction is "a global feeling about the job or as a related constellation of attitudes about various aspects or facets of the job" (Spector 1997, 2). Employees' job satisfaction is a frequently studied topic because mobilizing effective human capital is a key to enhancing government performance and accountability (Kim 2002). Extensive research has examined the determinants and the consequences of job satisfaction (for a review, see Cantarelli, Belardinelli, and Belle 2016). The factors affecting job satisfaction include managerial practices (An et al. 2019; Choi 2008; Kim 2002; Steijn 2004), job characteristics (Hackman and Oldham 1975; Steijn and Van der Voet 2019; Wright and Kim 2004), organizational structure (Hansen and Høst 2012), work environment (Langer, Feeney, and Lee 2019), public service motivation (Homberg, McCarthy, and Tabvuma 2015), and sense of community responsibility (Boyd et al. 2018; Nowell et al. 2016), among others (e.g., Lee 2019; Gordon 2011; West and Berman 2009).

Among these factors, the role of management is viewed as crucial (e.g., Gould-Williams 2003; Steijn 2004; White & Bryson 2013). Participative management practices, for instance, can improve employees' job satisfaction because engaging employees in the decision-making process can make them feel contented by their work and their specific job (Kim 2002; Spreitzer, Kizilos, & Nason 1997). Effective diversity management can alleviate the potential negative effects of demographic heterogeneity and harmonize individual differences, thereby contributing to employees' job satisfaction (Choi 2008).

Research has also shown that demographic congruence between managers and employees can also improve employee job satisfaction. Grissom and Keiser (2011), for example, find that racial congruence between managers and employees is associated with higher levels of job satisfaction and lower levels of turnover in public schools. Similarly, Grissom, Nicholson-Crotty, and Keiser (2012) examine gender congruence and find that the

gender of principals matters for teacher job satisfaction and turnover, especially in female-led schools. These studies suggest congruence between managers and employees can play a significant role in shaping employee job satisfaction.

In addition to demographic congruence, perceptual congruence between managers and employees can also affect employee satisfaction, although such studies are rare in public administration. Marvel's (2017) study of employee turnover makes a considerable contribution to the literature by examining the role of manager-employee disagreement on employee behaviors. Specifically, he finds managers tend to underestimate frontline problems relative to employees in a study of the severity of school problems. Teachers' perceptions of school problems are related to their turnover, whereas principals' perceptions are not. These findings imply that employee perceptions could be a better indicator to assess the frontline programs and to predict employee behavior (see also Jones 2001).

Regarding the perceptual discrepancy about management competencies, managers can either rate themselves higher than employees do or rate themselves lower. Managers who overestimate their management skills are likely overconfident about their abilities and may be less sensitive to the employee concerns (Moshavi, Brown, & Dodd 2003). Over-estimators may be less likely to make extra efforts to improve because they think they are already doing well. Managers' overestimation of their managerial practices, therefore, can negatively affect employees' job satisfaction. In contrast, managers who underestimate their skills could influence employee job satisfaction in the opposite direction. Managers' underestimation may stem from their critical self-evaluations based on high standards for themselves (Godshalk & Sosik 2000). These managers tend to strive to meet their standards and make an extra effort in building positive relationships with employees in managing their organizations. These efforts can contribute to creating a better work environment and greater job satisfaction.

The past research has shown that employees with underestimating managers are the

most satisfied, followed by employees in agreement with their managers, and employees with overestimating managers are the least satisfied (see Moshavi et al. 2003). Similarly, Amundsen and Martinsen (2014) find that employees with managers who overestimate their leadership report lower job satisfaction and higher turnover intention, while the agreement between managers and employees is not related to employee satisfaction or turnover intention. In sum, existing theoretical work and empirical research in the private sector suggest under-estimators influence employees' satisfaction most positively and over-estimators influence satisfaction most negatively. Thus, we predict that a perceptual gap between managers and employees would be negatively associated with employees' job satisfaction.

Hypothesis 1. Employees will be less satisfied with their job when they have less favorable assessments of management than their manager does.

Most studies in the management literature assume the relationship between perceptual discrepancy and individual outcomes is linear (e.g., Wexley et al., 1980). In other words, employee attitudes respond uniformly for each increment in perceptual incongruence between them and their managers. This assumption, however, requires systematic empirical testing because the effect of perceptual congruence on individual outcomes is complex (Erben et al. 2019; Yammarino & Atwater 1993). In their theoretical work, Yammarino and Atwater (1993, 1997) suggest self–other rating agreement could be divided into four different types: overestimating, underestimating, good in-agreement, and poor in-agreement, and that each type has a different effect on human resource management (HRM) outcomes. Regarding incongruence, they posit that when managers' self-ratings are greater than others' ratings (over-estimators), HRM outcomes would be negative, whereas the opposite case (under-estimators) would lead to mixed outcomes, some being positive and others being negative.

This discussion implies the potential nonlinear relationship between the manager-employee perceptual gap and employee job satisfaction.

While little research has tested the nonlinear relationship, scholars have identified that manager-employee disagreement is not simply a yes-or-no matter, but rather a matter of degree (Atwater et al. 1998; Yammarino & Atwater 1993). When the perceptual gap between self-assessment and employee assessments is small, for example, a manager may not worry about it and may not actively attempt to close the gap. As the discrepancy increases, however, a perceptive manager may begin to question whether their assessments are valid and seek more feedback from employees. The more managers try to reduce the gap and accept feedback from their employees, the less employees may be dissatisfied with their job. In light of this trend, we expect a nonlinear relationship between the manager-employee perception gap and employee job satisfaction, with decreasing returns to scale.

Hypothesis 2. The relationship between the manager-employee gap and employee job satisfaction will be nonlinear with decreasing returns to scale.

Shared Perceptions of Management and Employees' Job Satisfaction

Managers generally have more than one subordinate. This suggests that "walking the walk" may have an element of consistency. Some employees may perceive their manager as doing well, while others may think the opposite, indicating low consistency in employee perceptions. The consistency of management perceptions is worth considering because it captures the horizontal relationship between different perceptions of management, while the perceptual gap between managers and employees represents the vertical relationship (Penning de Vries et al. 2020).

Not only would it be beneficial for employees to better understand managerial actions, assuming they are under quality management, but consistency in perceptions is likely to have

positive consequences for the organization as well. First, if employees all perceive managerial actions in the same way, then they are more likely to work in tandem, with the result being a more harmonious work environment and likely higher productivity. Second, employees are also interested in being treated fairly, and consistent perceptions of managerial actions imply the expectations for employees and managers' treatment of them are relatively uniform and predictable. Under such circumstances, the expectations of employees are likely to be clearer and contribute, in turn, to greater job satisfaction. Third, consistent managerial actions can be taken as a credible commitment to the employees that management will respond positively when employees work harder or improve their performance (see Favero et al. 2016).

Although consistency in employee perceptions of management actions alone is helpful, the impact of such consistency is likely also contingent on how positively employees view management. When all employees have similar positive perceptions of management, this positive shared perception can improve job satisfaction. In contrast, when all employees agree management is not effective, this negative shared perception would more severely decrease their job satisfaction. In sum, the impact of perceptions on job satisfaction is higher when perceptions are consistent. This suggests that the effect of the original gap between employees and managers is contingent on perceptual consistency among employees.

Hypothesis 3. The effect of the manager-employee gap on employee job satisfaction will be greater when employees' perceptions of management are consistent.

Research Setting and Data

The empirical context for this research, secondary schools in South Korea, provides a theoretically important research setting for several reasons. First, education is a labor-intensive policy area, with teachers having face-to-face interactions with students on a daily

basis and the overwhelming proportion of school resources committed to personnel costs. Effective human resources management that helps to retain high-quality teachers and promote teachers' job satisfaction, therefore, is a major factor in organizational performance. Second, teachers frequently interact with principals to set school policies and educational curricula; they are aware of what principals do and the effectiveness of the principals' managerial practices. Many studies comparing managers and employees' perceptions have relied on education data (e.g., Favero et al. 2018; Marvel 2017). Third, Korean schools provide a unique research setting because their unified and centralized system is distinct from the diversified and decentralized school environments in many Western countries.

The data for this study are drawn from the Gyeonggi Education Panel Study (GEPS) in South Korea, conducted from 2012 to 2014. Gyeonggi is the province that surrounds Seoul (the capital city) and is the most populous province in the country with about a quarter of the country's population (Statistics Korea 2018). The province has the largest number of schools and students, and its education office hires the largest number of teachers and administrative staff in the country (Korean Educational Statistics Service 2018). The demographics of students in the province well reflects the characteristics of the entire population.

The Office of Education and the Institute of Education in Gyeonggi collected education data to establish effective education policies and provide quality education for all students. The data include archival school data and student performance data and annual surveys of students, parents, teachers, and principals to gauge their opinions about school education. The sample for the GEPS was selected using a stratified sampling technique to ensure adequate representation of the target population. In three years, 5,367 teachers and 635 principals participated in the survey. Accounting for dropped cases with missing values in the three-year sample, a final sample including 5,042 teachers and 621 principals remained. The response rates were high, ranging from 88.4% to 93.4% across the years (*on average* 91.7%).

Measures and Methods

Dependent variable: Employees' job satisfaction

Recognizing that job satisfaction is multi-dimensional (Spector 1997), this study employs two different types of job satisfaction: organizational satisfaction and professional satisfaction. This distinction can provide more practical implications for public managers in that employees may be content with their work but be dissatisfied with the organization that employs them or vice versa. The GEPS teacher survey includes a questionnaire asking teachers to answer how satisfied they are with their schools (e.g., the vision of the school, educational activities, and professional development) and with the teaching profession (e.g., their satisfaction with the teaching profession itself). A principal components factor analysis of these items produces a two-factor solution. The first factor mainly captures organizational satisfaction, whereas the second factor taps professional satisfaction (see Table A1 in the Appendix). Cronbach's alphas for organizational (0.93) and professional (0.82) satisfaction suggests high internal validity.

Independent variable: The manager-employee discrepancy

The key independent variable of this study is the perceptual discrepancy between managers' and their employees' ratings of management. To calculate the gap, the effectiveness of management should be first defined; then both employees' assessments and managers' self-assessments of management need to be measured with the same metric. Among the various dimensions of public management, we focus on internal management (Favero et al. 2016), as it significantly relates to employees' job satisfaction.

The data include both principals' and teachers' perceptual evaluations of principals' managerial practices, such as providing a clear vision, engaging teachers in setting goals and making decisions, supporting teachers' professional development, and making efforts to

reduce the administrative burdens. The questions for the principals and teachers are identical, using a five-point Likert scale ranging from strongly disagree to strongly agree. The Cronbach's alpha for principals' responses and teachers' responses are 0.87 and 0.97, respectively, suggesting high internal consistency. Table A2 in the Appendix shows the teachers' and principals' ratings for each of the management items. For all items, the principals' ratings are significantly higher than the teachers' ratings. In other words, the principals appear to systematically overestimate their management effectiveness.

We create perceptual evaluations of principals and teachers by summing each of the groups' responses. We then calculate the perceptual discrepancies by subtracting the teachers' perceptions of management from the principals' perceptions of that management ($P_{principal} - P_{teacher}$).[4] In general, principals give more positive evaluations of their school management (*Mean* = 56.06, *SD* = 3.90) than teachers do (*Mean* = 46.25, *SD* = 9.72). Figure 1 shows the distribution of the discrepancy scores.

<Figure 1 here>

Independent variable: The shared perceptions among employees

To measure the shared perceptions among employees, we use the degree of dispersion of teachers' assessments of management. We first calculate the standard deviation of the teachers' perceptions of their principal's managerial practices in their schools. Since a high standard deviation indicates that the data points are spread out, while a low standard deviation means that the data points collect closer to the mean, we reverse the values by multiplying the numbers by -1 so that higher values capture a greater shared perception. The shared perception among teachers is negatively and significantly correlated with the

[4] This discrepancy score is one of the most commonly used measures in the SOA literature (Kwan et al. 2004) although it is not without its limitations (Edwards 1993; Edwards and Parry 1993). In particular, this approach assumes that principals' and teachers' responses to each of the management items would measure the same underlying construct.

principal-teacher gap, both at the individual teacher level ($\gamma = -.280, p < .000$) and the aggregated school level ($\gamma = -.471, p < .000$). The correlation is plotted in Figure 2.

<Figure 2 here>

Control variables: Teacher, principal, and school characteristics

We include three sets of variables to control for alternative explanations for our dependent variables. The first group of controls is teacher characteristics that may influence how satisfied they are with their schools or their perceptions toward their job (Grissom et al. 2012). We include teachers' gender (coded as female = 1 and male = 0), age, education (highest degree), and teaching experience (years of work experience as a teacher). Job characteristics can also influence job satisfaction (Hackman & Oldham 1975), and we control for the teachers' job rank (part-time, full-time, and department headteacher) and whether they are a school committee member coded as member = 1, non-member = 0).[5] We expect having a higher rank and being on the school committee will positively correlate with higher satisfaction.

The second group of controls represents school characteristics that can play a significant role in shaping teachers' job satisfaction (Grissom & Keiser 2011). We control for class size (the student-teacher ratio) and the total number of students to capture the school size effect. Student characteristics can affect teachers' job satisfaction, given that teachers interact with students daily in the classroom. The number of students who received a government subsidy is included to control for the socioeconomic status of the students, while the number of students from multicultural families is included for each school to capture clientele heterogeneity.[6] We also consider ownership of schools (public or private school),

[5] A school committee is a group of members (e.g., principal, teachers, parents, and local community leaders) responsible for managing and overseeing the activities of a secondary school in Korea.
[6] A multicultural family in South Korea refers to a family that is made up of people from different cultures or nationalities, mostly through international marriage. It also includes the families of foreign workers and North Korean refugee families.

coeducation (coeducation schools, all-girls' schools, or all-boys' schools), the type of schools (elementary, middle, or high schools), and the region (urban or rural).

The third group of controls includes the characteristics of the principal. Prior research highlights the influence of managers' demographics on employee job satisfaction (Grissom et al. 2012; Grissom & Keiser 2011). We control for the principal's gender (coded as female = 1 and male = 0), age, education, and experience as a principal (in years). Descriptive statistics and coding schemes are shown in Table A3 in the Appendix.

Methods

We conduct a series of regression analyses to test our hypotheses. In all models, we cluster the standard errors at the school level to account for heteroscedasticity and include year fixed effects to account for serial correlation. As job satisfaction can be influenced by various factors, one important methodological issue is potential omitted variable bias. Other unobserved school characteristics or principal characteristics, for instance, may play a role in shaping teachers' satisfaction with their schools or profession. Thus, we include school fixed effects to rule out the potential omitted variable bias and address the causality issue head on. When we include both school fixed effects and year fixed effects, school characteristics that did not vary over time cannot be the source of any omitted variable bias.

Findings

Tables 1 and 2 present the findings from our primary analyses. In each table, Model 1 is the base model that tests the linear relationship, Model 2 adds school fixed effects to the base model, and Model 3 includes a square term to test the nonlinear relationship. Table 1 shows how the perceptual gap between principals and teachers is related to teachers' satisfaction with their organization. First, the models perform well, explaining roughly half the variation in over 5,000 individual teachers' responses (the adjusted R-squared values

ranged from .49–.56). The variable of interest, the perceptual gap, yields a negative and significant coefficient, suggesting that when principals' ratings of management are higher than teachers' ratings, teachers are less likely to be satisfied with their schools. This finding remains even after including the school fixed effects (Model 2 in Table 1).[7] In Model 3 in Table 1, the coefficient on the squared term is statistically significant and positive, albeit with a smaller effect size. This result suggests that the relationship between the perceptual discrepancy and organizational satisfaction is nonlinear.

Table 2 presents how the principal-teacher gap relates to teachers' satisfaction with their teaching profession. The coefficient of the gap measure is again negative and significant, suggesting teachers are less satisfied with their profession when their evaluations of management are lower than those of principals' self-evaluations. In addition, the squared term is also positive and significant, reflecting a nonlinear function (Model 3 in Table 2).

<Tables 1 and 2 here>

To calculate inflection point in the nonlinear relationship, we take the first derivative of this regression equation and setting it equal to zero. This calculation reveals that the critical point for the perceptual gap is 125 (Model 3 in Table 1) and 31.25 (Model 3 in Table 2), respectively. Given that the perpetual gap varies between −18 and 48 in our dataset, the findings imply that the principal-teacher gap has a negative relationship with teacher satisfaction, but this effect may decrease at extremely large values of the gap.

[7] While our gap measure uses both the principals' and teachers' perceptions rather relying solely on teacher perceptions, this variable may still share common variation with job satisfaction due to bias (Meier and O'Toole, 2013b; Podsakoff & Organ 1986). We use the marker variable technique and take one of the most aggressive approaches to common source bias (Richardson et al. 2009). Specifically, we conduct a factor analysis using both all the job satisfaction items and all the management perception items and use the first factor as a measure of common source bias. Despite controlling for the common source bias, our results remain strongly significant.

Figure 3 illustrates the predicted relationship between the perceptual discrepancy and teachers' satisfaction, with 95 percent confidence intervals (Model 3 from Tables 1 and 2). While both organizational satisfaction and professional satisfaction have a nonlinear relationship with the perceptual gap, their average rates of change look different. In the organizational satisfaction model (left panel of Figure 3), teachers' satisfaction significantly decreases as the perceptual gap between principals and teachers increases, and the rate of change slightly decreases. In the professional satisfaction model (right panel of Figure 3), the slope is negative and steep in the beginning, but it plateaus significantly as the perceptual gap between teachers and principals widened. As the principal-teacher gap reaches its maximum value, the predicted professional satisfaction increases only slightly.

<Figure 3 here>

Among the three groups of controls, teacher characteristics explain the level of organizational satisfaction well. As shown in Table 1, female teachers are more satisfied with their schools than male teachers. Younger teachers and more experienced teachers are relatively more satisfied than older teachers and teachers with less experienced, respectively. Compared to part-time teachers, full-time teachers are less satisfied, and headteachers are more satisfied. In Model 1, having a larger class size and more low-income students are associated with low satisfaction. Teachers in public schools are more satisfied than teachers in private schools. Since Models 2 and 3 include the school fixed effects that capture most of the school-level variation, most school and principal characteristics are no longer statistically significant. In addition, some school characteristics, such as ownership, school type, coeducation, and region are eliminated because they did not vary over time.

Table 2 illustrates how the control variables show different patterns of relationships with professional satisfaction compared to the organizational satisfaction model. While teacher gender and experience do not have significant effects on professional satisfaction,

teacher education is positively associated with the measure. Both full-time teachers and head teachers are less likely to be satisfied with their teaching profession compared to part-time teachers, and public school teachers are less satisfied with their teaching profession compared to private school teachers (Model 1 in Table 2). The latter result is particularly interesting, given that public school teachers report higher satisfaction with schools than private school teachers (Model 1 in Table 1).

Next, we investigate the role of teachers' shared perceptions of management. The results are presented in Tables 3 and 4, respectively. The shared perception among teachers is positively related to teachers' satisfaction with their organizations (Model 1 in Table 3), but not with their professions (Model 1 in Table 4). These findings indicate that teachers are more likely to be content with their schools when they share a common view of the principal's management, but this does not apply to their views on their teaching profession. The coefficient on the squared term of shared perception, however, is only statistically significant in the professional satisfaction model (Model 2 in Table 3), implying a nonlinear relationship between the shared perception and professional satisfaction.

<Tables 3 and 4 here>

Our hypothesis suggests that the effect of the perceptual gap between managers and employees can vary depending on the degree of shared perception among employees. In both organizational and professional satisfaction models, the interaction term between the perceptual gap between the teachers and the principal and the shared perception among teachers is negative and significant (Model 3 in Tables 3 and 4). This result suggests that the negative effect of the perceptual gap on teacher satisfaction can be accelerated when teachers share the same perceptions of the principal's managerial practices.

Figure 4 illustrates the marginal effects of the perceptual discrepancy on teacher satisfaction, with varying levels of shared perception among teachers. The marginal effect of

principal-teacher discrepancy on organizational satisfaction is negative and significant regardless of the level of shared perception among teachers, and its effect size increases as the level of shared perception increases (left panel of Figure 4). In the professional satisfaction model, the marginal effect of the perceptual gap is still negative but is only significant after a certain point (right panel of Figure 4). These findings demonstrate that the principal–teacher gap always hurts teachers' satisfaction with their school but does not have a significant impact on their professional satisfaction when there are considerable disagreements among teachers regarding management. In essence, the discrepancy has a substantial and negative effect on teachers' satisfaction only when teachers reach considerable consensus about their principal's effectiveness as a leader.

<Figure 4 here>

To further explore the effect of the perceptual gap and shared perceptions, we interact them with teachers' perceptions of school management. The results are shown in Table 5. Both the perceptual and shared perceptions have a greater effect on teachers' satisfaction when teachers more positively evaluate their principal. This result remains the same on the individual teacher level and the aggregated teachers' perception level.

<Table 5 here>

Discussion and Conclusion

While recent studies have indicated managers' self-assessments of managerial practices diverge from employee's assessments (e.g., Favero et al. 2018; Jacobsen & Andersen 2015), little attention has been paid to the consequences of this perceptual discrepancy in the public sector. This study investigates how perceptual discrepancies affect employee job satisfaction, using secondary schools in South Korea. We first find that variation in principals' perceptions exists, with some principals underestimating, some

matching, and some overestimating their management effectiveness relative to teacher assessments. In general, however, principals' self-evaluations of management are more favorable than teachers' evaluations. We find teachers are less satisfied in their schools and the teaching profession when their evaluations are less favorable than the principal's evaluations, and this relationship has a nonlinear form. Additional analysis shows organizational satisfaction could be improved when teachers share a common assessment of management in general. When principals significantly overrate their management and teachers share a common assessment of management, however, the negative effect of the perceptual gap on job satisfaction is enhanced. These findings imply that effective communication among employees is also important. Being on the same page, therefore, benefits not only the managers but also employees.

This article contributes to public management and human resources management literature in several ways. First, this study advances our understanding of the perceptual discrepancy between managers and employees by demonstrating its impact on employee job satisfaction and further showing the functional form of the relationship. While the previous literature had suggested that the gap exists and that it can affect employees' well-being (Yammarino & Atwater 1993, 1997), the existing knowledge was incomplete, given the complex nature of perceptual incongruence between different perspectives. Our findings suggest that public management and human resource management scholars need to be aware of the nonlinear dynamic underlying the mechanism of the perceptual gap between managers and employees.

Second, this research adds to the literature by highlighting the significant role of shared perceptions among employees in shaping their job satisfaction. This discussion is particularly relevant for public organizations where employees are more likely to work in teams under the hierarchical structures (Chen & Rainey 2014). Our analysis shows shared

perceptions among employees could accelerate the negative effect of the manager-employee gap on employee satisfaction. This finding suggests that it is important to consider horizontal (between employees) and vertical (between employees and managers) shared perceptions simultaneously to better understand employee job satisfaction (see also Penning de Vries et al. 2020).

Another noteworthy point of this research is that we conduct an observational study using a Korean dataset. This institutional context provides an interesting empirical setting because its structure and culture are significantly different from countries commonly studied in the literature, such as the United States or Western Europe. Perceptual congruence between managers and subordinates depends in part on interpersonal interactions and shared feedback (Ashford 1989), and these are significantly influenced by cultural characteristics (see Atwater et al. 2009). Since most studies about self–other rating agreements have taken place in Western countries (Fleenor et al. 2010; Lee & Carpenter 2018), which are characterized by high individualism and less hierarchical cultures, this study contributes to the external validity of the existing theory. We might expect the influence of perceptual gaps is larger in less hierarchical and more individualistic contexts (Jamil, Askvik, & Hossain 2013).

From a practical standpoint, our findings highlight the significant role of communication between managers and employees in promoting employee job satisfaction. Even if managers are successful, employees may rate their managers' performance as low and be unhappy in the workplace when they are unaware of the managers' efforts and achievements. Effective communication, therefore, can be the key to reducing the gap between managers and employees and enhancing employee job satisfaction. Managers should also frequently seek feedback from employees. While listening is a key management skill, many managers are not adept at listening to their employees. Receiving constructive feedback

also benefits managers who want to improve their managerial practices. Through interacting with employees, managers can learn what should be fixed and what could be improved.

It is important for managers to be aware that their self-assessments could be biased (Light 2010; Meier & O'Toole 2013a). Being self-aware and self-critical prevents managers from overestimating their competency and helps them keep developing their management skills. These efforts not only increase employee job satisfaction but also help employees to better understand managers' practices and support them. Given that support from frontline workers in bureaucracies is important to the success of policy implementation, the perceptual congruence between managers and employees can ultimately lead to better policy outcomes.

Despite the contributions of this study, there are several limitations, which may provide direction for future research. First, we did not incorporate the issue of whether the effect of the manager-employee relationship could be contingent on managerial quality into our models. When successful managers overestimate their management effectiveness, the negative effect of the manager-employee gap on employee satisfaction may be marginal because the managers are aware of the situation and make an extra effort to fix the communication problem. When poor managers overestimate their management effectiveness, however, the negative effects of the gap could intensify. Future research should explore how managerial quality shapes this relationship. Second, while the gap affects both managers and employees, our study only focused on employees. Future research could explore questions such as whether the perceptual gap decreases managers' intentions to delegate tasks and responsibility to their employees. Similarly, future research could investigate whether perceptual congruence produces tangible and intangible benefits for organizational performance. Lastly, generalizability is worth highlighting. The empirical context of our study was education, a labor-intensive policy area where employees and managers work

closely together. One critical question that remains, however, is whether our findings would be sustained in other policy areas such as police, healthcare, or social welfare programs.

To conclude, this study contributes to the literature by adding the significant role of manager-employee perceptual discrepancy to the determinants of employees' job satisfaction. The results help us better understand the nature of perceptual incongruence and provide practical implications for effective human resources management in the public sector. Employees can be good observers of managerial behavior because they get cues from various sources; their responses are also less likely to suffer from self-assessment bias. Talking the talk but not walking the walk, therefore, will not work. To promote employee's occupational well-being and achieve successful program outcomes, management needs to be credible—public managers need to walk the walk not just talk the talk.

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Table 1. The Manager-Employee Perceptual Gap and Employees' Organizational Satisfaction

Dependent variable = Organizational satisfaction						
	Model (1)		Model (2)		Model (3)	
	Linear model		Linear model with fixed effects		Nonlinear model with fixed effects	
Principal-Teacher gap	-0.063***	(0.002)	-0.067***	(0.002)	-0.075***	(0.003)
Principal-Teacher gap squared					0.0003***	(0.000)
Teacher gender (female=1)	0.083**	(0.028)	0.087**	(0.026)	0.090***	(0.026)
Teacher age	-0.060**	(0.021)	-0.052**	(0.019)	-0.052**	(0.020)
Teacher education	-0.017	(0.027)	-0.020	(0.024)	-0.022	(0.024)
Teacher experience	0.050**	(0.016)	0.044**	(0.016)	0.041*	(0.016)
Teacher rank: Full-time teacher	-0.080**	(0.030)	-0.059*	(0.029)	-0.056+	(0.029)
Teacher rank: Head teacher	0.086*	(0.043)	0.106*	(0.042)	0.109**	(0.042)
Committee member	0.064	(0.055)	0.042	(0.053)	0.041	(0.053)
Class size	-0.020*	(0.008)	0.001	(0.009)	0.000	(0.009)
Students with government subsidy	-0.079**	(0.025)	-0.054	(0.046)	-0.052	(0.046)
Students from a multicultural family	-0.014	(0.029)	0.018	(0.044)	0.015	(0.045)
Total number of students	0.082	(0.063)	-0.033	(0.189)	-0.017	(0.191)
Public school	0.429***	(0.083)				
All girls' school	0.018	(0.083)				
All boys' school	-0.058	(0.122)				
Middle school	-0.100	(0.069)				
High school	-0.306**	(0.094)				
Region (urban=1)	-0.118*	(0.053)				
Principal gender (female=1)	-0.014	(0.046)	-0.090	(0.127)	-0.091	(0.128)
Principal age	0.107*	(0.042)	0.073	(0.062)	0.075	(0.062)
Principal education	0.034	(0.059)	0.148	(0.105)	0.142	(0.105)
Principal experience	-0.019	(0.014)	0.008	(0.021)	0.006	(0.021)
Constant	0.233	(0.327)	0.921	(0.854)	0.896	(0.864)
School fixed effects	No		Yes		Yes	
Year fixed effects	Yes		Yes		Yes	
Adjusted R-squared	0.489		0.557		0.559	
N	5,042		5,042		5,042	

Note: Robust standard errors clustered at the school level and shown in parentheses. +p < .10, * p < .05, **p < .01, ***p < .001 (two-tailed test).

Table 2. The Manager-Employee Perceptual Gap and Employees' Professional Satisfaction

Dependent variable = Professional satisfaction						
	Model (1)		Model (2)		Model (3)	
	Linear model		Linear model with fixed effects		Nonlinear model with fixed effects	
Principal-Teacher gap	-0.013***	(0.002)	-0.015***	(0.002)	-0.025***	(0.003)
Principal-Teacher gap squared					0.0004**	(0.000)
Teacher gender (female=1)	-0.041	(0.037)	-0.032	(0.039)	-0.029	(0.039)
Teacher age	0.012	(0.029)	0.025	(0.031)	0.025	(0.031)
Teacher education	0.081*	(0.032)	0.079*	(0.033)	0.077*	(0.033)
Teacher experience	-0.029	(0.024)	-0.035	(0.026)	-0.039	(0.026)
Teacher rank: Full-time teacher	-0.325***	(0.042)	-0.333***	(0.045)	-0.329***	(0.045)
Teacher rank: Head teacher	-0.410***	(0.061)	-0.417***	(0.064)	-0.413***	(0.065)
Committee member	0.022	(0.074)	-0.014	(0.078)	-0.014	(0.078)
Class size	-0.003	(0.005)	0.003	(0.009)	0.003	(0.009)
Students with government subsidy	0.009	(0.018)	0.019	(0.048)	0.021	(0.048)
Students from a multicultural family	0.040*	(0.020)	0.058	(0.046)	0.054	(0.045)
Total number of students	0.079	(0.050)	0.205	(0.333)	0.226	(0.341)
Public school	-0.180**	(0.060)				
All girls' school	0.118*	(0.056)				
All boys' school	-0.004	(0.041)				
Middle school	-0.203***	(0.055)				
High school	-0.098	(0.064)				
Region (urban=1)	-0.122*	(0.049)				
Principal gender (female=1)	0.042	(0.039)	-0.000	(0.097)	-0.002	(0.097)
Principal age	-0.007	(0.035)	-0.054	(0.061)	-0.051	(0.061)
Principal education	-0.061*	(0.030)	0.087	(0.087)	0.080	(0.086)
Principal experience	-0.008	(0.009)	-0.025	(0.019)	-0.027	(0.019)
Constant	0.246	(0.284)	-2.018	(1.405)	-2.051	(1.438)
School fixed effects	No		Yes		Yes	
Year fixed effects	Yes		Yes		Yes	
Adjusted R-squared	0.050		0.065		0.068	
N	5,042		5,042		5,042	

Note: Robust standard errors clustered at the school level and shown in parentheses. +p < .10, * p < .05, **p < .01, ***p < .001 (two-tailed test).

Table 3. Shared Perceptions among Employees and their Organizational Satisfaction

Dependent variable = Organizational satisfaction						
	Model (1)		Model (2)		Model (3)	
	Linear model with fixed effects		Nonlinear model with fixed effects		Interaction model with fixed effects	
Teachers' shared perceptions	0.045***	(0.009)	0.088*	(0.034)	0.013	(0.008)
Teachers' shared perceptions squared			0.003	(0.002)		
Principal-Teacher gap					-0.079***	(0.005)
Principal-Teacher gap × Teachers' shared perceptions					-0.001*	(0.001)
Teacher gender (female=1)	-0.011	(0.036)	-0.011	(0.036)	0.086**	(0.026)
Teacher age	-0.008	(0.027)	-0.007	(0.027)	-0.051**	(0.019)
Teacher education	-0.013	(0.035)	-0.011	(0.035)	-0.021	(0.024)
Teacher experience	0.077***	(0.023)	0.076***	(0.023)	0.043**	(0.016)
Teacher rank: Full-time teacher	-0.322***	(0.038)	-0.322***	(0.038)	-0.059*	(0.029)
Teacher rank: Head teacher	0.028	(0.058)	0.027	(0.058)	0.108**	(0.042)
Committee member	0.156*	(0.072)	0.155*	(0.072)	0.031	(0.054)
Class size	0.006	(0.012)	0.007	(0.012)	0.001	(0.009)
Students with government subsidy	-0.133*	(0.051)	-0.131*	(0.051)	-0.047	(0.046)
Students from a multicultural family	0.007	(0.045)	0.010	(0.045)	0.025	(0.045)
Total number of students	-0.179	(0.171)	-0.199	(0.169)	-0.044	(0.201)
Principal gender (female=1)	0.002	(0.129)	0.014	(0.128)	-0.087	(0.128)
Principal age	0.035	(0.066)	0.034	(0.066)	0.068	(0.062)
Principal education	0.070	(0.140)	0.065	(0.140)	0.142	(0.108)
Principal experience	0.009	(0.017)	0.008	(0.017)	0.007	(0.021)
Constant	0.997	(0.756)	1.240	(0.770)	1.139	(0.912)
School fixed effects	Yes		Yes		Yes	
Year fixed effects	Yes		Yes		Yes	
Adjusted R-squared	0.236		0.237		0.558	
N	5,075		5,075		5,020	

Note: Robust standard errors clustered at the school level and shown in parentheses. +p < .10, * p < .05, **p < .01, ***p < .001 (two-tailed test).

Table 4. Shared Perceptions among Employees and their Professional Satisfaction

Dependent variable = Professional satisfaction						
	Model (1)		Model (2)		Model (3)	
	Linear model with fixed effects		Nonlinear model with fixed effects		Interaction model with fixed effects	
Teachers' shared perceptions	0.010	(0.008)	0.083***	(0.023)	0.009	(0.009)
Teachers' shared perceptions squared			0.004**	(0.001)		
Principal-Teacher gap					-0.025***	(0.006)
Principal-Teacher gap × Teachers' shared perceptions					-0.001+	(0.001)
Teacher gender (female=1)	-0.061	(0.039)	-0.061	(0.039)	-0.034	(0.039)
Teacher age	0.036	(0.031)	0.038	(0.031)	0.027	(0.031)
Teacher education	0.075*	(0.033)	0.078*	(0.033)	0.077*	(0.033)
Teacher experience	-0.030	(0.026)	-0.031	(0.026)	-0.038	(0.026)
Teacher rank: Full-time teacher	-0.388***	(0.046)	-0.389***	(0.046)	-0.330***	(0.045)
Teacher rank: Head teacher	-0.419***	(0.065)	-0.421***	(0.064)	-0.414***	(0.065)
Committee member	0.009	(0.078)	0.008	(0.079)	-0.009	(0.078)
Class size	0.004	(0.009)	0.005	(0.009)	0.003	(0.009)
Students with government subsidy	0.001	(0.044)	0.005	(0.045)	0.021	(0.048)
Students from a multicultural family	0.057	(0.045)	0.063	(0.044)	0.058	(0.046)
Total number of students	0.180	(0.313)	0.145	(0.312)	0.227	(0.338)
Principal gender (female=1)	-0.014	(0.094)	0.007	(0.092)	0.003	(0.098)
Principal age	-0.061	(0.062)	-0.063	(0.062)	-0.054	(0.061)
Principal education	0.030	(0.096)	0.021	(0.094)	0.071	(0.089)
Principal experience	-0.022	(0.019)	-0.024	(0.018)	-0.026	(0.019)
Constant	-1.952	(1.336)	-1.540	(1.329)	-1.964	(1.434)
School fixed effects	Yes		Yes		Yes	
Year fixed effects	Yes		Yes		Yes	
Adjusted R-squared	0.048		0.050		0.065	
N	5,075		5,075		5,020	

Note: Robust standard errors clustered at the school level and shown in parentheses. +p < .10, * p < .05, **p < .01, ***p < .001 (two-tailed test).

Table 5. Interaction Effect between the Manager-Employee Perceptual Gap, Shared Perceptions among Employees, and Perception of Management

	DV= Organizational satisfaction				DV= Professional satisfaction			
	(1) Perceptual gap		(2) Shared perception		(3) Perceptual gap		(4) Shared perception	
Principal-Teacher gap	0.027***	-0.028*			0.021*	0.016		
	(0.006)	(0.011)			(0.009)	(0.013)		
Individual teacher perception	0.084***		0.091***		0.021**		0.029***	
	(0.005)		(0.005)		(0.007)		(0.006)	
Principal-Teacher gap × Individual teacher perception	-0.0005***				-0.001***			
	(0.000)				(0.000)			
Aggregated teacher perception		0.022***		0.088***		0.0004		0.016*
		(0.005)		(0.007)		(0.006)		(0.008)
Principal-Teacher gap × Aggregated teacher perception		-0.001***				-0.001*		
		(0.000)				(0.000)		
Teachers' shared perceptions			-0.097***	-0.086*			-0.067*	-0.057
			(0.028)	(0.036)			(0.029)	(0.046)
Teachers' shared perceptions × Individual teacher perception			0.002***				0.001*	
			(0.001)				(0.001)	
Teachers' shared perceptions × Aggregated teacher perception				0.002*				0.001
				(0.001)				(0.001)
School fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R-squared	0.591	0.561	0.589	0.283	0.070	0.066	0.066	0.049
N	5,042	5,042	5,040	5,075	5,042	5,042	5,040	5,075

Note. All control variables in Table 1 are included in each model. Robust standard errors clustered at the school level and shown in parentheses. +p < .10, * p < .05, **p < .01, ***p < .001 (two-tailed test).

Figure 1. The Distribution of the Manager-Employee Perceptual Gap

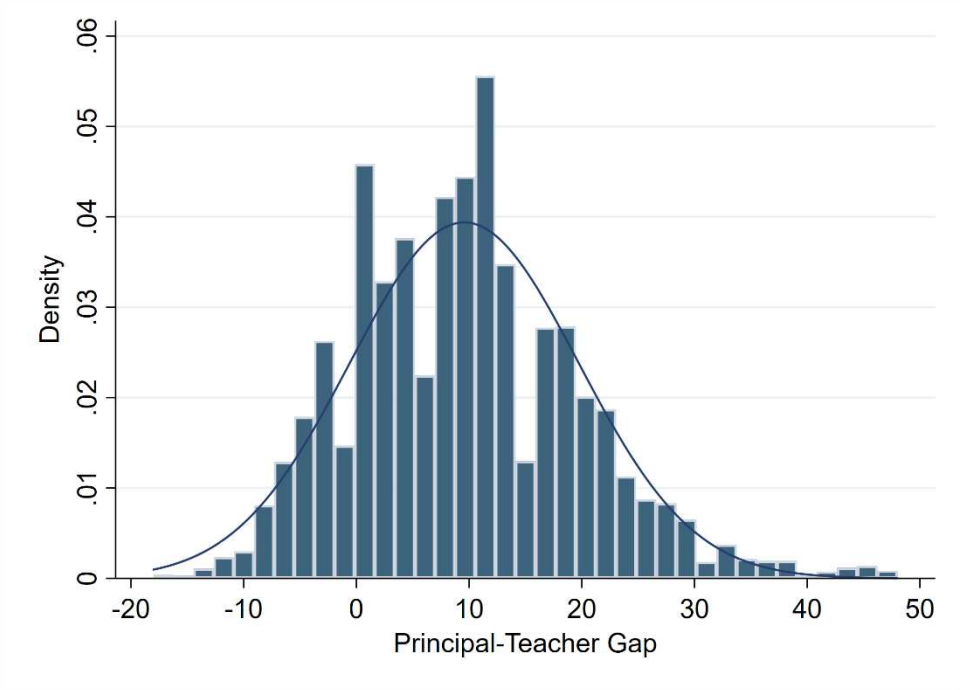


Figure 2. Relationship between the Shared Perceptions among Employees and the Manager-Employee Gap

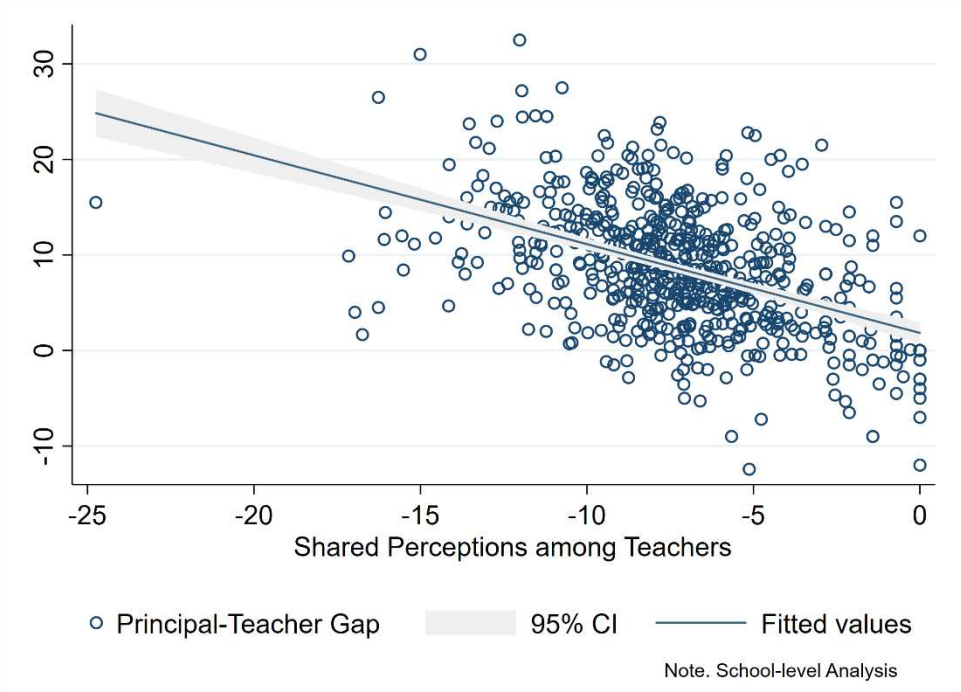
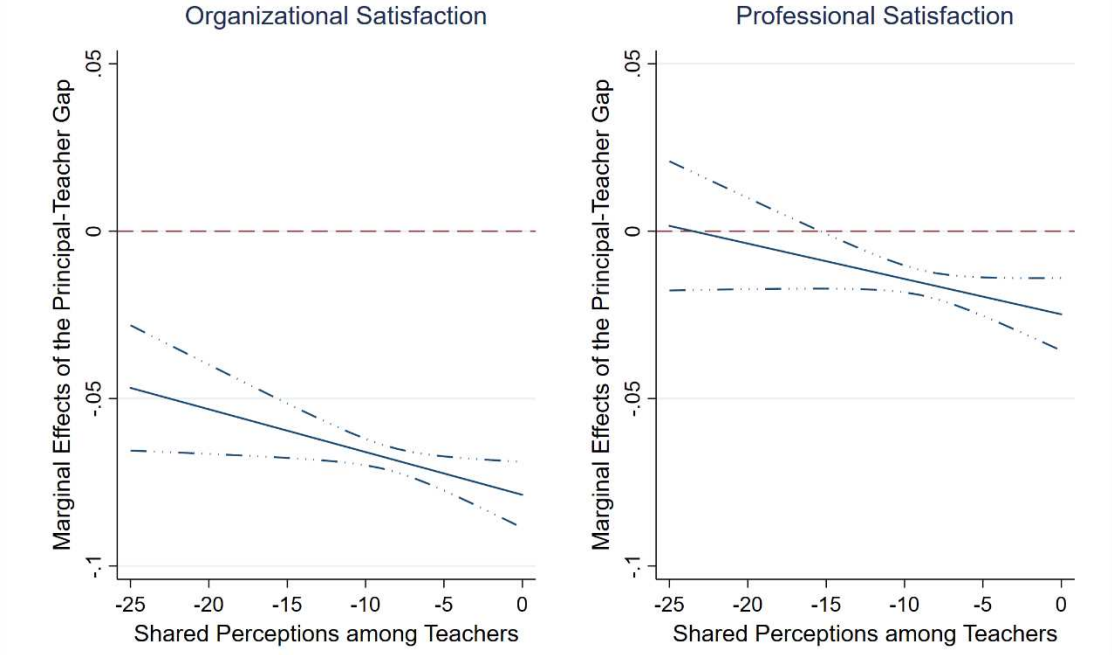


Figure 3. Predicted Effects of the Manager-Employee Perceptual Gap on Employee job Satisfaction

Note. 95% confidence intervals

Figure 4. Marginal Effects of the Manager-Employee Perceptual Gap on Job Satisfaction depending on the Levels of Shared Perceptions among Employees



Note. 95% confidence intervals

Appendix

Table A1. Factor-Analytical Results of Job Satisfaction Survey Items

Survey Item	Factor1	Factor2
I am satisfied with the vision and priority issues of this school.	**0.85**	0.16
I am satisfied with my participation in managing this school.	**0.86**	0.15
I am satisfied with the results of the teaching activities of this school.	**0.83**	0.19
I am satisfied with the new educational activities of this school.	**0.84**	0.16
I am satisfied with the relationship with the students in this school.	**0.63**	0.28
I am satisfied with the relationship with other teachers in this school.	**0.66**	0.23
I am satisfied with the relationship with (vice) principal in this school.	**0.81**	0.16
I am satisfied with the opportunities for professional development in this school.	**0.83**	0.17
I am satisfied with the teaching profession.	0.16	**0.88**
I am satisfied with my job as a teacher.	0.24	**0.81**
If I could choose my job again, I would still be a teacher.	0.10	**0.86**
Eigenvalue	5.12	2.46
Cronbach's alpha	0.93	0.82

Table A2. Principals' and Teachers' Mean Ratings for Management

Management item	Principal rating	Teacher rating	Difference
The school principal has a clear plan for school development and shares the educational goal with teachers and parents.	4.67	3.95	0.72
	(0.50)	(0.87)	(0.00)
The school principal engages teachers in setting school goals and assessing performance.	4.65	3.80	0.84
	(0.53)	(0.93)	(0.00)
The school principal asks teachers and parents for advice on school reform and development.	4.51	3.81	0.70
	(0.56)	(0.93)	(0.00)
The school principal consults with teachers about decisions that could affect teachers.	4.66	3.76	0.90
	(0.52)	(1.00)	(0.00)
The school principal tries to understand and support individual teachers' abilities and psychological characteristics.	4.54	3.74	0.80
	(0.54)	(0.99)	(0.00)
The school principal pays attention to teachers' personal issues and treats them equally.	4.57	3.72	0.85
	(0.57)	(0.98)	(0.00)
The school principal is interested in class improvement and teachers' new ideas.	4.69	3.86	0.82
	(0.51)	(0.91)	(0.00)
The school principal expects teachers to be creative when they do their jobs.	4.82	4.00	0.82
	(0.40)	(0.89)	(0.00)
The school principal encourages teachers to improve professional development.	4.71	3.97	0.74
	(0.52)	(0.89)	(0.00)
The school principal encourages teachers to adopt new teaching methods.	4.53	3.89	0.65
	(0.62)	(0.87)	(0.00)
The school principal makes efforts to help teachers to focus on teaching by reducing the administrative tasks of teachers.	4.68	3.82	0.86
	(0.51)	(0.99)	(0.00)
The school principal emphasizes cooperation among teachers and seeks to promote school community culture.	4.79	3.91	0.88
	(0.43)	(0.96)	(0.00)

Note. Standard deviations (columns 1 and 2) and p-values (column 3) are in parentheses. Response scales vary from 1 (strongly disagree) to 5 (strongly agree) for both teacher survey and principal survey.

Table A3. Descriptive Statistics for All Variables

Variable	Mean	SD	Min	Max	Source
Dependent variable					
Teacher satisfaction with organization	0.00	1.00	-4.74	2.64	Teacher survey
Teacher satisfaction with profession	0.00	1.00	-3.80	2.38	Teacher survey
Independent variable					
Perceptual gap between principals and teachers	9.54	10.14	-18	48	Principal survey & Teacher survey
Shared perceptions among teachers	-7.82	2.76	-24.75	0	Teacher survey
Teacher characteristics					
Teacher gender (female=1; male=0)	0.73	-	0	1	Teacher survey
Teacher age	2.45	0.82	1	5	Teacher survey
Teacher education	2.37	0.51	1	4	Teacher survey
Teacher experience	2.49	1.08	1	5	Teacher survey
Teacher rank: Part-time teacher	0.20	-	0	1	Teacher survey
Teacher rank: Full-time teacher	0.64	-	0	1	Teacher survey
Teacher rank: Head teacher	0.16	-	0	1	Teacher survey
Committee member (yes=1; no=0)	0.05	-	0	1	Teacher survey
School characteristics					
Class size	18.91	4.60	2.71	42.78	Archival data
Number of students with government subsidy (logged)	2.18	1.15	0	5.25	Archival data
Number of students from a multicultural family (logged)	1.33	0.95	0	5.68	Archival data
Total number of students (logged)	6.55	0.74	3.85	7.69	Archival data
*Ownership (public=1; private=0)	0.95	-	0	1	Archival data
*Coeducation: Coeducation school	0.95	-	0	1	Archival data
*Coeducation: All girls' school	0.03	-	0	1	Archival data
*Coeducation: All boys' school	0.02	-	0	1	Archival data
*School type: Elementary school	0.40	-	0	1	Archival data
*School type: Middle school	0.30	-	0	1	Archival data
*School type: High school	0.30	-	0	1	Archival data
*Region (urban=1; rural=0)	0.79	-	0	1	Archival data
Principal characteristics					
Principal gender (female=1; male=0)	0.20	-	0	1	Principal survey
Principal age	2.31	0.50	1	3	Principal survey
Principal education	2.87	0.46	1	4	Principal survey
Principal experience in current school	2.18	1.70	0	15.42	Principal survey

Note. Based on a sample of 5,042 teachers and 621 principals used in the analysis. *School characteristics that do not vary over time are dropped from the tables due to the school fixed effects. Teacher age is coded as a categorical variable with 5 categories (20s = 1; 30s = 2; 40s = 3; 50s = 4; 60s = 5). Teacher education is coded as a 4 category-variable (2-year college graduate = 1; 4-year university graduate = 2; Master's degree = 3; Doctorate degree = 4). Teacher experience is coded as a 5 category-variable (less than 5 years = 1; between 5 and 10 years = 2; between 10 and 20 years = 3; between 20 and 30 years = 4; more than 30 years =5). Principal age is coded as a 3 category-variable (40s = 1; 50s = 2; 60s = 3). Principal education is coded as a 4 category-variable (2-year college graduate = 1; 4-year university graduate = 2; Master's degree = 3; Doctorate degree = 4).